

ABSTRACT OF THE DISCLOSURE

It is an object of the present invention to provide a constant voltage generating circuit which can reduce a driving voltage and noise. A resistor R1 is interposed between a pnp transistor PN11 and a base of a pnp transistor PN12. A resistor R2 is connected to a current source P11. The voltages at two terminals of a differential amplifier OP1 are expressed as follows:

$$VPIN = VBE11 + VR1 + VBE12 + \dots + VBE1n$$

$$VNIN = VBE21 + VBE22 + \dots + VBE2n$$

Since $VPIN = VNIN$, $VR1 = nVBE(1) - nVBE(N) \equiv n\Delta VBE$. Thus, $VOUT = VBE + \alpha' n\Delta VBE = 1.2 \text{ V}$. This eliminates the need for a circuit for reducing the required voltage to $1/n$ as required in the prior art. Therefore, the present invention serves to reduce the required voltage.